Gender Differences in Creative Perceptions of Undergraduate Students

1H. Naderi, 2R. Abdullah, 3H. Tengku Aizan, 4J. Sharir and 5V.K. Mallan
1Department of Educational Studies, University of Mazandaran, Street of Pasdaran, Babolsar, Iran
2Department of Human Development and Family Studies, Institute of Gerontology, University Putra Malaysia, Serdang 43300, Malaysia
3Department of Education Psychology and Counselling, University of Malaya, 50603 Kuala Lumpur, Malaysia
4Department of English, University Putra Malaysia, Serdang 43400, Malaysia

Abstract: This study investigated the difference between gender-role identity and creativity of students at Malaysian Universities. The respondents were 153 undergraduate Iranian students (48 females, 105 males; aged 19 to 27 years) in Malaysia Universities. All students were given a Khatena-Torrance Creative Perception Inventory Test (KTCPI). The instrument comprised two subscales, namely, Something About Myself (SAM) and What Kind of Person Are You (WKOPAY)? Each subscale had fifty items. The results revealed no significant difference between female and male students’ overall creative perception. Further examination revealed that male students score higher in the WKOPAY subscale (t = 2.578, p = 0.011), while females scored higher than males in the initiative factor (t = 3.566, p = 0.000) and males scored higher than females in the environmental sensitivity factor (t = -2.216, p = 0.028) in the SAM subscale. Further replications on similar samples are needed.

Key words: Creative perception inventory, What Kind of Person Are You (WKOPAY), Something About Myself (SAM), gender, undergraduate students

INTRODUCTION

Numerous studies have been reported on creativity (Aitken, 2004; Chang and Birkett, 2004; Conti et al., 2001; Coppola et al., 2008; Craft and Wegerif, 2006; De Dreux et al., 2008; Dietrich, 2008; Giesecke, 2001; Hicks, 2007; Jung, 2008; Kaufman, 2002; Matud et al., 2007; Preckel et al., 2006; Rice, 2003; Simonton, 2000; Sternberg, 2005; Sternberg and Dess, 2001; Vass, 2006; Whatmore, 2002; Wong and Ladkin, 2008, Yadav, 2007). Although, Matud et al. (2007) have been interested in studying creativity and have conducted numerous investigations, which have led to progress in the understanding of creativity, much work still remains to be done. However, among the background characteristics, gender has been considered as one of the most important and most cited variables in educational and psychological research literature (Fennema, 1998). The significance of examining also creativity in relationship to gender also is based initially on the others variables differences between males and females (Abra, 1991; Emslie et al., 2006; Razumnikova and Bryzgalov, 2006; Volf et al., 2007).

Palaniappan (2000) investigated gender differences in creative perception among 101 males and 69 females, using Khatena Torrance Creative Perception Inventory (KTCPI) to measure creative perception. The findings indicated that although there were no gender differences in the overall measures of the two subscales Something About Myself (SAM) and What Kind of Person Are You (WKOPAY), it was detected that males obtained significantly higher scores on initiative than females. Palaniappan (2007b) also studied on Malaysian high school students, 142 boys and 154 girls (M age = 13.3 year, SD = 0.3) were compared on a talent measure, the Khatena-Morse Multitalent Perception inventory. Boys obtained significantly higher means on the overall score of versatility and the talent areas of artistry, creative imagination, initiative and leadership.

Other studies, on the other hand, showed that females scored higher on verbal while males scoring higher on figural creativity (DeMoss et al., 1993). Yet others had found the exact opposite results elsewhere (Chan et al., 2001; Dudek and Strobel, 1993). But

Corresponding Author: Dr. Rohani Abdullah, Department of Human Development and Family Studies, University Putra Malaysia, Serdang 43400, Malaysia Tel: +6038946538
study from Sajjadi-Bafghi (2007) has been shown different result. He studied on 886 Iranian students (407 boys and 479 girls). Analysis this study showed boys scored significantly higher than girls on creativity (verbal originality).

Sing and Wing-Ling (1996) investigated on 633 Chinese students in Hong Kong. Based on peer nominations, the subjects were placed in five status groups: average, popular, neglected, rejected and controversial. Through peer nominations and teacher ratings the perception of the students’ degree of creativeness was obtained, between students’, males were viewed to be more creative than females. However, Chusmir and Kobler (1986) examined creativity differences and gender. The result indicates that male and female do not differ significantly in level of creative.

Past research on gender differences in creative perception are limited and revealed inconsistent findings on gender differences and creativity. Another important advantage of the Khatena-Torrance Creative Perception Inventory (KTCPI) is that although it is mainly used for students in high school and below, it can be effectively administered on students in universities.

While studies on gender differences and creative perception are numerous, studies on undergraduate students are rare and none have explored gender differences in creative perceptions of Iranian students overseas. Therefore, this study attempts to examine gender differences in creative perception among undergraduate Iranian students in Malaysian universities, using a Khatena-Torrance Creative Perception Inventory (KTCPI) to measure creative perception of the students (Palaniappan, 2005). In line with the aim of the study, the research questions are:

- Is there any gender difference on creative perception?
- Is there any difference between the males and females scores on the subscale something about myself and their subscores?
- Is there any difference between the males and females scores on the subscale what kind of person are you and their subscores?

MATERIALS AND METHODS

Participants: One hundred and fifty three Iranian undergraduate students in Malaysian Universities (31.4% females and 68.6% males) were recruited as respondents in this study. Their ages ranged from 18-27 years for females (mean = 22.27, SD = 2.62) and 19-27 years for males (mean = 23.28 and SD = 2.43).

**Instruments:** Creative perception was examined using KTCPI (Khatena-Torrance Creative Perception Inventory) (Palaniappan, 2005). The (KTCPI) instrument comprising of two subscales, namely, Something About Myself (SAM) and What Kind of Person Are You (WKOPAY)? The Table 1 shows the SAM measure of creative perception is based on the rationale that creative behaviour is reflected in the individual’s personal characteristics. It tests six factors, namely, Environmental, Sensitivity, Initiative, Intellectuality, Self-strength, Individuality and Artistry.

Palaniappan (2005) the (WKOPAY) also measure of creative perception is based on the rationale that an individual has a psychological self whose structures have incorporated both creative and noncreative ways of behaving. It covers five factors: Acceptance of Authority, Self-confidence, Inquisitiveness, Awareness of others and disciplined imagination. The creative perception score is the total score obtained on What Kind of Person Are You?

Like the Test Your Creativity Level scale, tow subscales were 100 items. The SAM consists of 50 items that require yes or no answers and the WKOPAY be composed of 50 items that need A or B answers. Scoring of responses to this measure presents little difficulty and can be done by simple frequency counts of the positive responses on the total scale. The respondents took their own time to compete the test, but it usually takes 20-30 min (Palaniappan, 2007a). Scoring answers to items is done by counting the number of positive responses, giving a credit of 1 for each positive answer. All blank responses are scored zero. However, the test was translated into Language of Persian. An example of a translated item where the student is required answering Yes or No is: تمایل دارم نظر جدید از اشکال نمایم or I like adding to an idea for the SAM and student is required answering A or B for the (WKOPAY) is:

<table>
<thead>
<tr>
<th>SAM</th>
<th>WKOPAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental sensitivity</td>
<td>Acceptance of authority</td>
</tr>
<tr>
<td>Initiative</td>
<td>Self-confidence</td>
</tr>
<tr>
<td>Self-strength</td>
<td>Inquisitiveness</td>
</tr>
<tr>
<td>Intellectuality</td>
<td>Awareness of others</td>
</tr>
<tr>
<td>Individuality</td>
<td>Disciplined imagination</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 1: Subtest KTCPI</th>
<th>SAM</th>
<th>WKOPAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>KTCPI</td>
<td>SAM</td>
<td>WKOPAY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Finally, reliability established in a pilot study. As in study has been good reliability in their assessments of creativity (SAM) was (α = 0.779) and creativity of (WKOPAY) was (α = 0.775).

Procedure: Undergraduate students participated in this study. The research questions posed for the study required identifying and analyzing the distributions and correlations of certain creativity perception were best addressed in the form of a descriptive study. Creativity levels were assessed by self-report instruments were assessed by result of administration office of universities (described below), divided by gender, with total scores and subscales calculated. The samples women (18-27 years) and men (19-27 years) were selected during the regular course time. Written instructions were given and orally for all the participants and the subjects were ready to answer upcoming questions in the class. Multiple significance tests were conducted and data were analyzed by t-test. Participants answered to the tests namely or anonymously (if they would like). Students received no rewards but be given information of result in the form of a self-referenced level of abilities. Scores for creativity scale and its factors, were entered into the SPSS statistical program.

RESULTS

Creative Perception Inventory (CPI): In this instance (Table 2) the females’ mean score was not higher than the males. The standard deviations between females and males for creative perception were not also larger, ranging from a low of (38 = females and 36 = males) to a high of (71 = females and 75 = males). Also, Normal P-P Plot graphs (Expected Cumulative Probability by Observed Cumulative Probability) were obtained for creative perception inventory scores is shown in Fig. 1. Independent samples t-test for equality of mean was used to determine whether there was not significant difference between these scores on the basis of gender. Table 2 shows the t-ratios for males and females on creative perception. On this overall score, Iranian males and females did not differ significantly on creativity perception (p = 0.490).

Something About Myself (SAM): Table 3 shows the independent samples t-test for males and females on something about myself and its factors. On this overall score, males and females did not differ significantly on something about myself, but males students differed significantly from females on scores for environmental sensitivity (p = 0.028) and initiative (p = 0.000) but not on the other factor scores of something about myself.

In this data (Table 3) the females’ mean score was greater than the males for something about myself, but the standard deviations between females and males were not higher differences (males = 4.36 and females = 4.55). However, we have different result about its factors scores; the females’ mean scores were higher than the males for environmental sensitivity, self-strength, intellectuality and individuality, but females’ mean scores were lower than males on scores for Initiative and Artistry. Finally, Normal P-P plot graphs (expected cumulative probability by observed cumulative probability) were obtained for Something About My Self (SAM) scores is shown in Fig. 2.

Fig. 1: Normal P-P plot-KT CPI

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
<th>t-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>105</td>
<td>36</td>
<td>75</td>
<td>60.87</td>
<td>7.58</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>48</td>
<td>38</td>
<td>71</td>
<td>59.95</td>
<td>7.66</td>
<td></td>
</tr>
<tr>
<td>Total score</td>
<td>153</td>
<td>36</td>
<td>75</td>
<td>60.58</td>
<td>7.59</td>
<td>-0.692</td>
</tr>
</tbody>
</table>

*p<0.05

Table 3: Comparisons of something about my self scores of males and females

<table>
<thead>
<tr>
<th>Something about myself</th>
<th>Males (n = 105)</th>
<th>Females (n = 48)</th>
<th>Significant (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total score</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Environmental sensitivity</td>
<td>4.71</td>
<td>1.25</td>
<td>4.55</td>
</tr>
<tr>
<td>Initiative</td>
<td>2.98</td>
<td>1.61</td>
<td>2.23</td>
</tr>
<tr>
<td>Self-strength</td>
<td>7.10</td>
<td>1.68</td>
<td>7.58</td>
</tr>
<tr>
<td>Intellectuality</td>
<td>6.54</td>
<td>1.65</td>
<td>7.04</td>
</tr>
<tr>
<td>Individuality</td>
<td>3.48</td>
<td>1.30</td>
<td>3.70</td>
</tr>
<tr>
<td>Artistry</td>
<td>2.69</td>
<td>1.50</td>
<td>2.31</td>
</tr>
</tbody>
</table>

*p<0.05, **p<0.001
Table 4: Comparisons of what kind of person are you scores of males and females

<table>
<thead>
<tr>
<th>Something about</th>
<th>Males (n = 48)</th>
<th>Females (n = 48)</th>
<th>Significant difference (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Total score</td>
<td>28.97</td>
<td>4.80</td>
<td>26.75</td>
</tr>
<tr>
<td>Acceptance of authority</td>
<td>2.30</td>
<td>1.40</td>
<td>2.25</td>
</tr>
<tr>
<td>Self confidence</td>
<td>6.15</td>
<td>1.95</td>
<td>5.87</td>
</tr>
<tr>
<td>Inquisitiveness</td>
<td>2.79</td>
<td>1.09</td>
<td>2.56</td>
</tr>
<tr>
<td>Awareness</td>
<td>5.73</td>
<td>1.82</td>
<td>5.65</td>
</tr>
<tr>
<td>of others</td>
<td>4.65</td>
<td>1.91</td>
<td>4.46</td>
</tr>
</tbody>
</table>

*(p<0.05)

(Expected cumulative probability by observed cumulative probability) for this study were obtained for What Kind of Person Are You (WKOPAY) scores is shown in Fig. 3.

DISCUSSION

Findings from this present study demonstrate that there are no gender differences in creativity perception between males and females. This result match and consistent with other studies that also indicated no gender differences in the creativity (Palaniappan, 2000, 2007b). However, other studies showed the opposite results elsewhere (Abra, 1991; Emslie et al., 2006; Razumnikova and Bryzgalov, 2006; Volff et al., 2007).

It was found that although in general there was no gender differences in both of the creativity perception measures; what kind of person are you subtest and something about myself subtest, Palaniappan (1994) reported that boys scored significantly higher than girls on the overall scores of both what kind of person are you as well as something about myself, however in another study indicated that there were no gender differences in the overall measures of these two subscales (Palaniappan, 2000).

In present study there were no significant gender differences on overall the factor scores of both what kind of person are you and something about myself except for environmental sensitivity and Initiative. Males obtained significantly higher scores on Initiative than females, but female achieved significantly higher scores on environmental sensitivity than males. Palaniappan (2000) has supported for generally factor scores (including factor of initiative) with the exception of environmental sensitivity studied in this research (Palaniappan, 2000) stated there is no significance difference on the factor Environmental Sensitivity between boys and girls. In view of the fact that most research on creativity focused on males, little is known about creativity of females (Reis, 2002). Additional studies are required to understand gender differences in creativity across all grade levels.
The findings in this study shed light on the relationship between gender and creativity, highlighting the existence of gender differences in creative perceptions. These differences are influenced by cultural and environmental factors, which contribute to the concept of creativity as a multifaceted construct.

One possible explanation for the lack of overall gender differences in creative perception is that males and females generally excel in different aspects of creativity, such as analytical and environmental sensitivity. In another word, the study suggests that gender differences in creative perception are multidimensional and may vary across different contexts.

Future research should explore the interrelationships between factors that contribute to creativity and the role of culture and environment in shaping these differences. Understanding these relationships can help in designing more effective interventions for fostering creativity across different genders.

CONCLUSION

The findings of this study seem to suggest that the existence of gender differences in creative perceptions depends on the measures used to assess creative perceptions. Further research is needed to develop a comprehensive understanding of how these differences manifest in different cultural contexts and how they can be addressed in educational and organizational settings.

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REFERENCES


